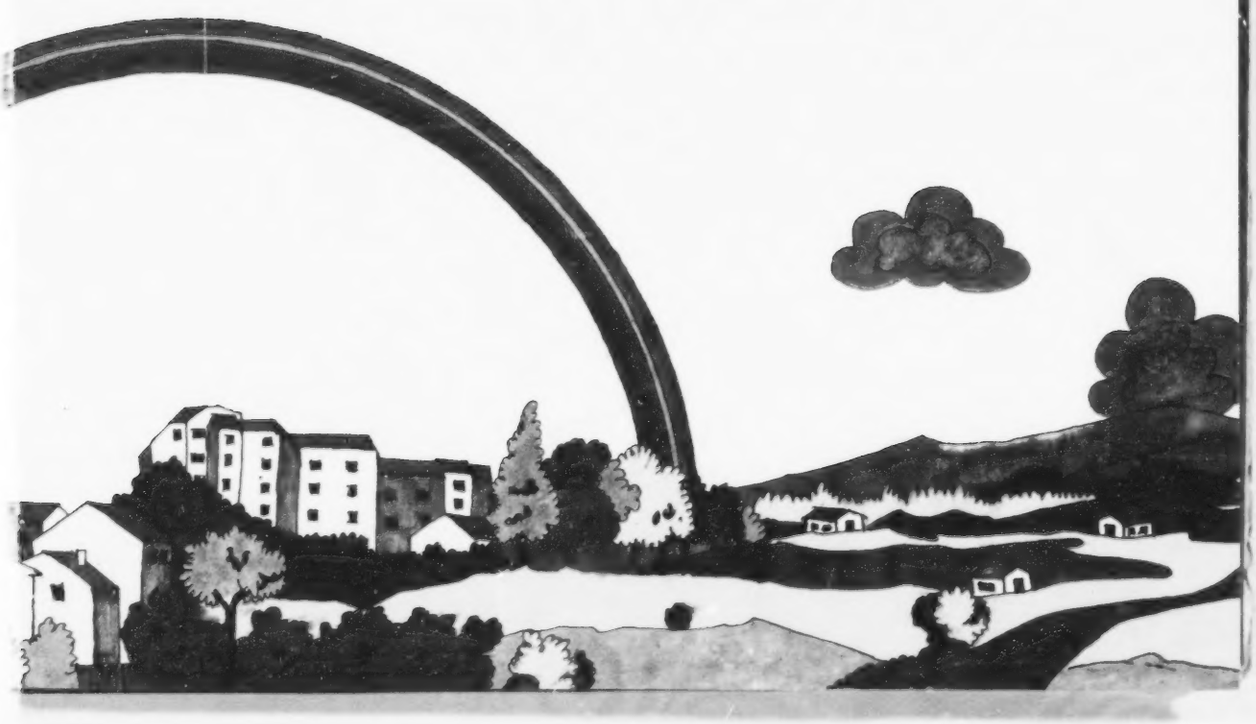
World HABITAT Day

UNITED NATIONS CENTRE FOR HUMAN SETTLEMENTS (Habitat)

Monday 7 October 1991

SHELTER and the LIVING ENVIRONMENT

INFORMATION KIT



WORLD HABITAT DAY MESSAGE OF THE EXECUTIVE DIRECTOR OF THE UNITED NATIONS CENTRE FOR HUMAN SETTLEMENTS (HABITAT)

Shelter and the Living Environment

On this World HABITAT Day - the last before the historic United Nations Conference on Environment and Development scheduled for next June in Brazil - it is especially appropriate that we direct attention to the issue of the living environment of people, particularly the millions of people in urban slums and poor rural settlements worldwide whose deplorable living conditions call out for urgent remedial action. At a time when the great issues of the environment and sustainable development are, understandably, taking centre stage in world affairs, it is important to also remember that for the more than 1 billion people worldwide who lack decent shelter "improving the environment" means, first and foremost, safe and secure housing, clean surroundings, potable water, hygienic sanitation and waste disposal facilities, clean low-cost energy for domestic use, and so forth.

It is clearly unrealistic, and indeed unacceptable, to talk in terms of long-term environmental sustainability of development if we do not at the same time address the immediate problems of basic survival for this vast segment of humanity, concentrated as it is in the developing countries, the countries least able economically to provide for the needs of such large numbers of poor and disadvantaged citizens.

It is now well appreciated that poverty can become, and indeed quite often is, the driving force behind environmental degradation, when desperate people over-exploit their natural resource base - sacrificing the future in order to salvage the present. The cruel logic of short-term needs leaves landless families little choice but to put rain forest plots to the torch or alternatively to migrate to the city. Unemployed coastal villagers dynamite coral reefs, and sell high protein fish for cheaper cassava to feed their families. In turn, environmental degradation perpetuates poverty as degraded ecosystems offer diminishing yields to their poor inhabitants.

This clearly highlights the need for accelerated development as well as heightened efforts at poverty eradication. Development must thus proceed, but we must also find ways to conserve and better manage natural resources, use energy wisely and develop new technologies which are not, like so much of technology today, economic successes but ecological failures.

In this regard the question of human settlements - how they develop, use natural resources and interact with the natural environment - will be central to any successful transition towards sustainable development. This is particularly true in the towns and cities of the developing world, not only because an increasing share of the world's population lives there, but also because these settlements play a key role in the social and economic development of those countries. They not only provide opportunities for new jobs, innovations and economic growth, but also play a crucial role in supporting agricultural development as well as in the provision of social and other basic amenities.

But it is also true that it is within urban centres that most of the world's resources are consumed or transformed into products. As with the industrialized countries, the inefficient use of natural resources by large populations in the developing countries is putting resource systems under stress in a broad range of settlements, but most visibly in urban areas. These built-up areas are drawing increasingly on

natural resources such as land, water and forest products while at the same time contributing in a major way to the rise in environmental pollution from household and industrial effluent and emissions.

As the physical environment in and around the growing cities deteriorates, those affected most are the urban poor, who make up 30 to 60 per cent of the urban population in developing countries. Foremost among environmental concerns are the health problems of these inhabitants, whose substandard living environment does not protect them from contact with human and other wastes and from air pollution. *For the poor, therefore, the main environmental priorities remain improved housing and the provision of basic services and amenities at affordable costs.*

Furthermore, quite apart from the unquantifiable costs in human suffering and lowered quality of life, the increased costs of health care and the productivity losses to the economy due to the ravages of environment-related diseases under these conditions constitute in themselves a major obstacle to a country's development efforts, and hence to the pursuit of sustainable development.

It stands to reason, therefore, that if we aim at a sustainable future for the human race - which we of course do -we must then not only persevere in our efforts to protect the ozone layer, the tropical forests, the lakes, rivers and oceans and to husband natural resources, but must also pay serious attention to the issue of the living or immediate environment of people. It must be part of our definition of sustainable development to assure for human beings everywhere living conditions which optimize their economic and social development potential, providing to individuals and families alike access to decent housing and basic services that will enable them to lead stable and productive lives.

This critical linkage between the state of human settlements (the living environment) and sustainable development underscores the significance of the Global Strategy for Shelter to the Year 2000 as the main framework of international action to tackle the global shelter crisis. Viewed from this perspective, it becomes easy to see the Global Strategy as a key instrument of sustainable development, successful implementation of which becomes both a necessary condition as well as a catalyzing force for attainment of the goal of sustainable development.

On this World HABITAT Day, therefore, I implore everyone to join in re-committing ourselves to full and effective implementation of the Global Strategy for Shelter to the Year 2000, knowing that we thereby espouse not only the immediate goal of shelter for all but also that on an environmentally sustainable future for our planet.

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SUSTAINABLE DEVELOPMENT ON AN URBANIZED PLANET

For the ancient Greeks, the city was the highest embodiment of human civilization. It was regarded as the excellence of humanity's genius and creativity.

But in today's giant urban agglomerations the vision has become tarnished. Human settlements contribute to major development - as well as constrain it. They are centres of affluence - and concentrations of poverty. They bring out the best in human enterprise - and the worst in human suffering. They contain the best social services - and the worst social ills.

For more than a fifth of the world's population - one billion people - urban living in the 1990s is characterized by ill-health and premature death from overcrowding, unsanitary conditions, toxic wastes and rotting garbage. Global environmental issues such as ozone depletion, tropical deforestation and climate change can only be of secondary concern to these people.

Yet only a little more than a lifespan ago, at the beginning of the century, the world was home to about 1.7 billion people. Only 11 cities had populations of more than a million residents. Although environmental degradation and pollution were common - with many city residents living under a cloud of sooty smoke - the problems were local; more than 90 per cent of the population lived in the countryside anyway. The world appeared vast, with huge regions virtually untouched by its human inhabitants.

By mid-century almost 30 per cent of people were urbanized, and there were already 75 cities of more than a million citizens. Air travel and radio broadcasts had begun to shrink distances and bring the world's peoples, now 2.5 billion, into greater contact. Industrial growth and growing affluence was already dramatically increasing the per capita consumption of natural resources - and per capita pollution - in many countries.

The world population has more than doubled since 1950, to 5.3 billion people, and the global output of goods and services from an increasingly urbanized world has nearly quadrupled. There are now over 275 urban areas containing one million or more inhabitants, the majority of these in developing countries.

In less than 10 years, and for the first time in history, more than half the world's population will be urbanized. Before the century ends we will have to find room for another 900 million people on our planet, most of whom will be born in the poorest countries - those least equipped to meet the needs of the new arrivals and invest in the future.

This combination of fast population growth, rapid urbanization and poverty has already begun to eat away the very living base of the planet. Vast urban agglomerations claim valuable agricultural land as built-up areas expand without control and land speculation on urban fringes drives out farmers - often from the very fertile lands that provided the basis for the original settlement.

Urban residents and industries require vast amounts of water, often pre-empting its use by farmers. Ever-increasing amounts of untreated wastes are discharged into

nearby rivers, lakes and seas poisoning fish and other aquatic life. Toxic chemicals from solid wastefill sites leach into precious underground water reservoirs.

In our efforts to feed a growing population we are effectively mining the world's forests and soils. Erosion, desertification and the salting and waterlogging of irrigated lands are slowly undermining the productivity of much of the world's cropland. Dozens of developing countries are now feeling the effects of deforestation. Many that were once exporters of forest products now have to spend scarce funds to purchase their timber from elsewhere. Deforested slopes worsen flooding, and hasten the silting of reservoirs and coastal ecosystems. Through ignorance, greed and neglect we are condemning millions of species of plants and animals to extinction, not to mention the impact on our own species.

Ironically, fossil fuel combustion - the energy base behind this century's industrial expansion - could well prove to have the costliest consequences of all. Each year around 5 billion tonnes of carbon dioxide, in addition to sulphur and nitrous oxides, are released into the atmosphere from industrial smokestacks, power plants, car exhausts, cement production and the burning of vast tracts of tropical forests. Annually, fossil fuel pollutants cause billions of dollars worth of damage to forests, crops, fisheries, building materials and human health.

But worldwide the trauma of adjusting to a greenhouse-gas induced global warming may prove the most painful. Climate change will affect rainfall patterns and temperatures, possibly threatening global food security. Rising sea levels could cause up to a billion people to become environmental refugees. The costs of protecting the vital rice-growing plains and deltas of Asia, not to mention the multitude of rural and urban settlements along the world's densely populated coastal areas, are incalculable.

Although ecosystems throughout the world are suffering from population growth, pollution and resource destruction, the environmental crisis is markedly different between rich and poor countries. The more developed, northern countries suffer more from an addiction to energy and resource consumption, than from the indirect effects of runaway population growth.

Indeed, by far the largest share of resources used, and waste created, is the responsibility of the "top billion" people. OECD countries may only contain 15 percent of the world's population, but they account for around 80 per cent of the world's consumption of non-renewable resources.

Furthermore, the rich countries have the capital and technology to control their pollution - if they wish. They can choose from a wide array of policy options and technologies to improve energy use efficiency and reduce their dependence on non-renewable resources.

In contrast, the developing countries have fewer options, and fewer solutions. They not only have the unenviable task of coming to grips with rising pollution, but they must also try to cope at the same time with the human and resource problems that come with rapidly growing populations.

In some regards the richest countries have much to learn from their poorer counterparts. Most urban centres in developing countries are currently more resource-conserving than cities in developed countries. Per capita consumption

levels are much lower, and any items of waste which have some value are reclaimed for use or recycled.

One of the most important issues, however, is the relationship between ecological sustainability and the living and working conditions of the poor in developing countries. Much has been written about the environmental damage caused by overgrazing of herds belonging to nomadic and pastoral populations, by the exploitation of forests and vegetation to obtain fuelwood, by the occupation of ecologically vulnerable lands for agricultural or peri-urban settlement, by spontaneous settlements which pollute water sources and by overcrowded and insanitary settlements which multiply health risks, particularly for women and children.

All of these problems are real, of course, and their aggregate impact can be considerable. Unfortunately it is not often appreciated that these are consequences of a lack of choice. The poor are efficient resource users, savers and recyclers, and, given the chance, can show the way to resource-conserving lifestyles, but without capital they remain dependent on governments to take the lead in making basic infrastructural investments.

In the developing countries, rapid population growth is accompanied by migration from rural regions to urbanized regions, and to a lesser extent to the so-called "rural frontier", into ecologically fragile ecosystems unsuited for agriculture. The population of a typical African capital city is likely to grow between 60 and 80 per cent within the next ten years. By the end of the century, the urban population of the developing world will be almost double that of the developed world.

It is not surprising that city managers in these countries are finding it difficult to meet the shelter and employment requirements of skyrocketing population increases with inadequate resources and poor planning. The paradox is, however, that in these countries that problems can become, at least to a certain extent, part of the solution.

Cities, which have often been pointed at as the epitome of environmental crime, are indeed the places in the developing countries where environmental problems can best be controlled, unlike remote rural regions, which are often undefended against ruthless natural-resource exploitation and encroaching settlements.

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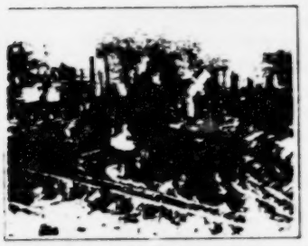
Shelter and the Living Environment

CLEARING THE AIR



As the world's population becomes increasingly urbanized - and industrialized - an ever growing proportion of humanity is crowded into cities and experience serious atmospheric pollution.

As the world's population becomes increasingly urbanized - and industrialized - an ever growing proportion of humanity is crowded into cities with serious atmospheric pollution.

In industrialized countries, efforts to combat air pollution - since one of London's worst ever smogs killed more than 4,000 people and left tens of thousands injured in 1952 - have been only marginally successful. In Central and Eastern Europe as well as much of the developing world, air pollution is only beginning to be recognised as worthy of serious attention.

Air pollution, of course, is not new. Our early ancestors living in smoke-filled caves had air pollution problems, as have most cities throughout history. Over 2,000 years ago, Seneca complained of air pollution in Rome, and the first known laws to control air pollution were enacted in London in 1273, when King Edward I passed a law prohibiting the use of one type of coal. In the Middle Ages one man was even hanged for burning it.

The severe health problems related to air pollution span both continents and levels of development. In the United States some 150 million people are exposed each year to air considered unhealthy by the Environmental Protection Agency. In greater Athens, the number of deaths is six times higher on heavily polluted days than on those when the air is relatively clear. In China, clear days are rare in Shanghai and the chronic smog is called "Yellow Dragon", while rain can be so acidic that it burns holes in nylon shirts. In Calcutta an estimated 60 per cent of the population suffer from respiratory diseases.

The environmental impacts of air pollution are equally grave. Acid rain and air pollution are devastating crops, forests, lakes and buildings over wide areas of Europe and North America. Even in areas remote from industrial facilities air pollution can be damaging. In parts of Central Africa, scientists report acid rain and smog levels as high as those found in Central Europe.

The battle against air pollution becomes increasingly complex. Just as one problem appears to be coming under control, a new one arises to replace it. In newly industrialized countries combatting smoke and soot emissions from coal-fired factories and heating greatly improved air quality, at least until vehicular pollution emerged as the primary barrier to clean air. Similarly building tall smokestacks that spew pollutants far away from cities seemed a good idea ... at the time. But it did not take many years to discover that sulphur dioxide and nitrogen oxides could be transformed into acid, forming particles that fall to earth far from their source as "acid rain".

Acid rain concerns have transformed what had once been a local issue or, at best, a national issue into a regional, continental issue. Now the need to halt the build-up of ozone-destroying and heat-trapping greenhouse gases has added a truly global dimension to the air debate. Coastal communities, food production, water supplies, forest products industries, fisheries and entire ecosystems will all be at risk if global warming accelerates during the next several decades.

Air pollution, damage to people and other living organisms, and global climate change are complex and diverse problems. Yet, they all share a common root - energy consumption. Minimizing this damage, and climate change, requires fundamental changes in energy policies within the next decade.

As greenhouse gases - such as carbon dioxide, methane and chloro-fluorocarbons - accumulate in the atmosphere they trap the sun's heat, preventing it from readily escaping back to space. This causes the atmosphere to warm and disrupts established climate patterns. These gases are produced from a wide variety of human activities, ranging from fossil fuel combustion to wet rice cultivation. The most important, carbon dioxide, now accounting for about half of global warming arises primarily from the burning of fossil fuels, the manufacture of cement, and changes in land-use through large-scale deforestation.

Worldwide consumption of fossil fuels in the period 1860 to 1949 is estimated to have released about 50 billion metric tonnes of carbon. Yet, in the past four decades, fossil fuel use has accelerated with carbon dioxide emissions from consumption over this period totalling an additional 130 billion tonnes.

Improving energy efficiency within human settlements - in transportation, industry, offices and homes - is clearly the quickest, most cost-effective way of reducing carbon emissions and other gases that are harming the environment. This is important especially as much of the world is urbanizing, and most of the population growth will occur in our cities, where the use of fossil fuels for heating and transport are more common than in rural areas.

Energy consumption in buildings, industries, homes and workplaces could all be reduced by improving the efficiency of lighting, space heating, motors and appliances. Over sixty per cent of the world's electricity is produced by burning fossil fuels (mainly coal) accounting for around a quarter of global carbon emissions from fossil fuels. Today, cogeneration, the simultaneous production of steam and electricity offers significantly higher energy conversion efficiencies than have been available in the past. Waste heat can be used directly to run industrial processes or heat buildings, boosting the output of the original fossil fuel by almost double and cutting carbon emissions.

Greater use of public and mass transit systems would reduce the number of vehicles on the road, improve urban air quality and relieve traffic congestion. Raising fuel efficiency standards for new automobile and truck fleets would also reduce carbon emissions and oil imports.

And, of course, energy sources and fuels that produce no carbon dioxide are ideally suited to reduce the risk of global warming and reduce air pollution. Hydro, solar, wind and geothermal power are all under development around the world. Hydropower currently provides about one fifth of the global energy supply.

Although these renewable energy sources have much less short-term potential to replace fossil fuels than advances in energy efficiency - and hydroelectric power dams raise important environmental questions of their own - renewable sources are rapidly improving in performance and dropping in cost.

In the same regard halting deforestation, especially tropical deforestation, would not only slow the build up of carbon dioxide and preserve the world's

invaluable biological resources, but would also produce many other beneficial side effects. It is important to remember that deforestation is often the product of constrained economic choice - fuelwood is used because it is available and because the opportunity costs of collecting and transporting it (often over vast distances) are negligible when there is no option of other productive occupation, such as skill learning or informal economic activities.

Fuelwood and charcoal are used because alternative fuels, such as kerosene and natural gas, are either unavailable or too expensive. Few governments have considered the enormous advantages, both in human health and environmental terms, that could accrue by adjusting price policies on alternative, cleaner cooking fuels. All too often, the solution is not environmental - it lies in development and pricing policies attuned to the specific needs and requirements of urban and rural settlements.

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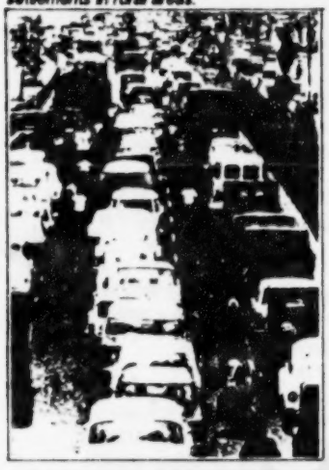
In many cases valuable land - and genetic resources would be better managed by encouraging high-density urban settlements while consolidating smaller settlements in rural areas.



As the world's cities, towns and industrial areas continue to grow unplanned, millions of hectares of valuable land are lost to new housing, factories and roads.

UTILIZING LAND ON A CROWDED PLANET

In an increasingly urbanized world it is sad, but not surprising, that for millions of children consumer items such as cartoned milk, cotton T-shirts and breakfast cereals are the closest link to the countryside they will ever experience. Indeed, it is easy for any of us that live and work in an environment dominated by houses, shops, offices and factories to forget how fundamentally our well-being is linked to the land.

Food and fibres are only two of the most obvious links between an urbanized population and the land. Wood is another important link. The poorest half of humanity requires wood for cooking, heating and construction, and wood remains a crucial raw material of modern industrial societies. Less apparent are the critical ecological services provided by forests, plants and wildlife. From the cycling of chemical elements to the moderation of microclimates and purifying water to renewing soils, biological systems make Earth habitable for humanity.

Properly managed the Earth's more fertile lands and forests could meet everyone's food and wood needs abundantly and indefinitely. The persistent undernourishment of some 500 million people today does not stem from a global scarcity of resources. While millions of babies and children die each year from diseases exacerbated by malnutrition, one third of the world's grain harvest is fed to livestock to supplement the meat-rich diet of the affluent.

The social and economic failings that permit hunger to persist are also indirectly undermining the land's ability to support human activity. Millions in the poorest countries are caught in a tragic cycle of poverty and land degradation. Lacking either fertile land or decent-paying jobs, they are forced to scratch a living from marginal lands where soils cannot sustain intensive cultivation. As populations soar in semi-arid zones, cultivators shorten traditional fallow cycles, transforming ancestral lands into deserts. In other cases the promise of new agricultural land proves illusory, as evidenced by the failure of an estimated 20 per cent of new ranches in the Amazon within a few years.

Worldwide, rising populations, poor management and increasing urban and industrial pollution are taking their toll on both cropland and freshwater resources. Soil erosion, desertification and the salting and waterlogging of irrigated lands are slowly undermining the productivity of much of the world's cropland.

Each year millions of hectares of tropical rainforests, the world's richest biological storehouses, are logged to pay national debts and provide affluent consumers with parquet floors, fine furniture, fancy panelling and high-grade coffins. Deforested slopes lead to increased rainfall runoff and crop-destroying floods. Water reservoirs and hydro-electric dams are rendered obsolete by premature siltation, coral reefs are smothered and low-lying settlements flooded. Damage to crops, forests and buildings from air pollution and acid rain is evident in industrialized and developing countries alike.

While people are the main agents of land degradation, they are also its victims. The most important aspect of depleted land resources lies in its impact on people - on the individual, the family, the community, the nation and even the global family. The environmental degradation and the biological and physical stress of a

damaged countryside have their direct counterparts in economic and social consequences for humanity.

In developing countries unskilled peasants unable to make a living from family land have little option but to pile up on the fringes of the cities. Unable to purchase or rent, they build shacks on any peripheral vacant land, private or public, from which they hope they will not be expelled by force. That land is usually the most undesirable from the sanitary and transportation point of view. There are shanty towns in practically all the cities of the non-industrialized countries of the world.

Yet in many cases squatter residents can be housed to the benefit of all. In a UNCHS (Habitat) designed project in Bangkok the concept of land-sharing is successfully resolving land conflicts.

This strategy not only allows the owner to benefit from an unimpeded ability to profit from the most commercially profitable land, but also provides poor residents with affordable housing and a secure title on the remainder.

All too often, as our cities, towns and industrial areas continue to grow unplanned, millions of hectares of the world's cropland are lost each year to new housing, factories and roads. In the densely populated, rapidly industrializing countries of East Asia, non-farm uses claim roughly half a million hectares of cropland each year, while in the United States about a million hectares of cropland is lost annually to industrial expansion, highways, satellite shopping centres and urban sprawl.

Clearly, it is unrealistic to imagine that we can begin to achieve sustainable development until countries recognise the necessity to prepare and implement national land-resource utilization plans. It is only with planning that effective protection and optimum use of environmentally sensitive land resources could become a possibility.

In the same context, it is impossible to sustainably develop fragile ecological systems, and neither human settlements nor other development should be permitted in such areas. Indeed, in many cases valuable land resources would be better managed by encouraging high-density urban settlements while consolidating smaller settlements in rural areas.

An efficient land-management policy would also address the rationalization of land-tenure systems, improving the conditions of the poor in both rural and urban areas. Without access to land the need to house rising populations in developing countries encourages chaotic development, land speculation, occupation of marginal and ecologically fragile lands and the worsening of the environmental conditions of disadvantaged and economically vulnerable groups.

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ENSURING FRESH WATER FOR A THIRSTY WORLD

The economic burden of disease and ill-health for the fifth of the world's population lacking access to safe water is enormous

Wasteful consumption, pollution and rising demands from an urbanizing population are placing one of the world's most precious resources - its fresh water supply - in jeopardy.

Earth may well be the water planet, but while over 70 per cent of its surface is covered by water, most of this is the saltwater of the oceans and less than three percent is fresh water. And of this, 77 per cent is locked away in the glaciers and polar caps as ice and 22 per cent is groundwater - much of which has accumulated over thousands of years.

This leaves less than one percent of the supply of fresh water to take part in the hydrological cycle, and only half of this is found as surface water in our rivers, lakes and swamps. Yet the perception that water is a finite resource to be conserved and protected is relatively new and not yet universally shared.

For too long water has been treated as an unlimited resource that is provided as cheaply as possible and in any quantity desired. Yet, by the year 2000, many countries will have only about half as much water per capita as they had in 1975 - and many will experience much greater demands from industry and agriculture. Clearly, unless countries practice more efficient water management, introduce recycling, prevent pollution and promote water conservation future shortages are likely to limit growth in agriculture and industry and will jeopardize health, nutrition and economic development.

One or two litres of water each day are as essential as air for human life - and, indeed, few people die of thirst. The problem is obtaining a supply of clean water. But for the more than one billion people in developing countries who lack access to safe water the economic burden of disease and ill health is enormous.

Where technology has allowed us to tap the vast underground water reservoirs of the world, we drain too many of them at rates that far exceed natural replenishment. In other cases we dam, drain and divert rivers and wetlands for short-term, local benefits - oblivious to long-term ecological needs.

As evidence of the effects of growing use, heavy demands for water are lowering underground water tables in many countries such as China, the United States and India. The Caspian and Aral Seas in the Soviet Union are shrinking. Bangkok and Jakarta are two among many coastal cities facing serious problems of subsidence from drawing too much water from their underground storage tanks, and contamination by the intrusion of sea water.

Equally ecologically devastating are the enormous amounts of municipal sewage, industrial effluent and contaminated surface runoff from urban and agricultural areas which pour daily into the world's waterways. These wastes and chemicals are poisoning the natural groundwater and surface waters on which future generations depend for survival.

Although the proportion of water utilized in human settlements is modest in comparison with other uses, such as agriculture, the uncontrolled use of water for human settlements can have far-reaching negative impacts beyond those of

pollution. Small dams and wells for rural settlements can encourage desertification as the new water supply inevitably encourages greater numbers of livestock as well. And the construction of large dams to meet the growing needs of large urban settlements can have unexpected environmental side effects, often even changing the local micro-climate and adversely affecting local crops and wildlife.

By the end of this century, around half of humanity, three billion people, will be urbanized. Providing water for such enormous populations will require greatly improved management of scarce water resources, in both rural and urban areas. If we are to protect water quality with such a level of urbanization and its accompanying industrialization we will have to greatly increase our efforts to control water quality.

A key step in ensuring a sustainable adequate water supply will be the protection and restoration of degraded watersheds and aquifer recharge areas, so rainfall can be held upstream and released gradually to meet the needs of downstream users. Decreasing flooding and increasing the amount of water available downstream in drier seasons will also prevent the premature siltation of water storage reservoirs and power stations.

In the same way, much can be done to conserve water by treating it as a valuable commodity and pricing it to reflect the real cost of supply. Household water use, especially in the developed world, can be cut by one fifth through the use of simple water saving devices such as more efficient toilets, showerheads and washing machines.

Often, better management and maintenance can improve services more economically than increasing capacity. Reducing leakage rates which can rise as high as 60 percent in some developing country cities to around the 12 per cent attained by many European cities could more than double the amount of water available for use.

In many cities too, largely self-financing water supply systems can reach poorer groups with much improved levels of service. A piped water system can often be installed to replace water vendors and provide residents with a larger, safer and more convenient supply that they previously bought from vendors.

But as well as conserving water, a lot can be done to safeguard the quality of the world's freshwater resources. The highest priority must go to programmes that reduce the generation of solid, liquid and airborne wastes from industrial plants, mining operations, electric power production and our cities and towns. Where wastes cannot be eliminated they must be contained and treated.

Given the importance of freshwater, it is not surprising that its protection and management is one of the nine main issues to be addressed by next year's United Nations Conference of Environment and Development (UNCED) in Brazil. In this regard UNCHS (Habitat) has been asked to take the lead in outlining the "environmental management of water resources for meeting the needs of urban areas" for the initial preparatory conference dealing with this UNCED issue to be held in Ireland early next year.

There is no doubt that the way to develop water resources for our varied needs is filled with risks for ecological catastrophies. But the threat of damage to soil, forests, wetlands, wildlife and people is no less important than the need for improved water supplies for millions of people worldwide.

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Shelter and the Living Environment

DO THE POOR NEED TO DIE YOUNG?

For hundreds of millions of the world's poor urban living is characterized by ill-health and premature death from over-crowding, unsanitary conditions and rotting garbage

This year more than 15 million children under the age of five will die - ninety-nine per cent of these will be from the "developing world". In countries such as Switzerland and Japan the average life expectancy is 77 years, 35 years more than in Afghanistan or Sierra Leone.

The short-term outlook for the one fifth of the world's population, the poorest of the poor, living in cities with no capital resources or productive land, is bleak. These people have little choice but to live in crowded, cramped housing conditions. Tuberculosis, influenza and meningitis spread quickly in these settlements, often helped by the low disease resistance amongst malnourished residents. A high proportion are disabled by diseases such as polio, or from household or workplace accidents which receive inadequate treatment.

Their makeshift settlements lack readily available water, sewerage facilities, garbage collection and primary health care services. Diarrhoea, dysentery, typhoid, intestinal parasites and food poisoning are endemic.

Certainly, poor people in Europe and North America also suffer more ill health and premature death than the rich. But in the developing countries, where a far higher proportion of the population is poor, the problem is of a much larger scale and severity. It is not surprising that the lives of these poor people is characterized by almost continuous ill-health.

Yet, well designed and implemented government actions to improve housing, infrastructure and services do not have to be expensive, and a high proportion of costs can be recovered. Indeed it is often the richer households and businesses in cities - not the poor - who are paying far less than the real costs of publicly-provided infrastructure and services.

Where public agencies provide no water supply to low-income settlements, the poor rely on private vendors and can pay 20 to 30 times the amount per litre paid by more affluent groups with water piped into their houses. One of the most important untapped funding sources for infrastructure and services could come from charging the rich more realistic rates.

Clearly too, rather than ignoring the plight of the poor, governments can take advantage of urbanization to achieve economies of scale in the provision of many kinds of services, so that the costs of their provision are not beyond most households' capacity to pay.

With co-operation between governments and community-based citizens groups, it is possible to tackle the most serious health problems with limited financial resources. Indeed, in many towns and cities around the world, a variety of UNCHS (Habitat) innovative projects have clearly demonstrated that low-income people can be reached with piped water, improved sanitation and drainage, health services and other improvements at low per capita costs and with good cost recovery.

In many cases these projects have shown how poor households can afford to repay small flexible loans for the purchase of land and the construction or

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improvement of housing. And in these schemes the level of default is usually much lower than that achieved by more traditional clients.

It is often forgotten that the remarkable decline in mortality rates and improvements in health in Europe and North America in the late nineteenth century and early twentieth century owe more to improved nutrition and improvements in water supply, sanitation and other aspects of housing and living conditions than they do to medical establishments. The number of water taps in a neighbourhood are a far more reliable indication of health than the number of hospital beds.

World Habitat Day

Monday, 7 October 1991

Shelter and the Living Environment

IMPROVING THE ENVIRONMENT OF URBAN POVERTY

At the same time that cities are making significant, and growing, contributions to the economies of developing countries, they are facing the apparently contradictory situation that their physical and living environment is deteriorating.

Not surprisingly many poor citizens in developing countries find it difficult to share Western concerns regarding global warming - questions of survival 20 or more years into the future are not a priority for those concerned with survival today.

More than a billion people in today's urbanizing world live and work among the world's most degraded environments where the smells and pollution are unbearable. They lack clean drinking water and sanitation facilities, even rudimentary toilets. Garbage lies rotting outside their makeshift shelters, often reducing access along narrow, unpaved pathways still further, and turning surface drains into open sewers. Diarrhoea, dysentery, typhoid and food-poisoning are facts of life.

Ironically, at the same time that cities are making significant, and growing, contributions to the economies of developing countries, they are facing the apparently contradictory situation that their physical and living environment is deteriorating. More and more urban residents lack even the resources to allow them to meet their basic needs of food, water, clothing and shelter. Slums and squatter settlements grow. Untreated sewage, uncontrolled industrial effluents and rapidly growing numbers of vehicles pollute air, water, coastlines and croplands. There is little or no protection for workers from unsafe workplaces, over-long working hours and excessive travel to and from home. Urban expansion is, all too often, haphazard and unplanned.

Most of these problems are linked to the failure, or inability, of governments to provide an effective regulatory and planning framework to address the problems of poorer citizens and protect the urban (and national) environment from contamination. All of the difficulties outlined above not only reduce productivity but also undermine social stability, and all imply costs which detract from an optimum development role for cities and from a sustainable urban development path. Removing these impediments clearly calls for changes in policy direction, and some of them might involve radical departures from existing practice.

Such changes in direction must acknowledge that the solution does not lie in the direction of increased public spending or expanded direct government involvement. Rather they imply that governments should concentrate on supportive and facilitative actions to stimulate the desired development, rather than trying to curb activities still perceived as undesirable, such as self-help urban settlement.

This also involves the recognition that problems are often more clearly identified and remedied at the local, rather than national level. The first step is the granting of decision-making and revenue-collection powers to cities and towns of all sizes. This will enable them to identify and spend new sources of revenue and to pursue development opportunities without undue constraints from central and regional authorities. This would also be a necessary, if not sufficient, condition for allowing the growth of intermediate and small settlements to exercise their crucial productive and service functions in regard to their rural constituency and specific local conditions.

Such a step must, however, go hand in hand with concerted attempts to improve existing urban-management procedures and practices, particularly in such key

areas as financial and land management, infrastructure operations and maintenance and service delivery. This implies training in all skill categories as well as a reorganization of administrative structures in order to achieve maximum efficiency and coordination. Together with increased freedom on the part of local authorities to raise and spend revenues as part of a decentralization policy, increased efficiency can improve the level of infrastructure and service delivery in urban areas to support economic growth and enhance the quality of urban life.

Among other things urbanization means an escalating demand for shelter. Clearly, the public sector cannot be the sole provider of this basic human need - the scale of demand is simply too vast. Rather governments should concentrate on shaping a facilitating environment which will enable the poor to construct and upgrade their own shelter. This "enabling" approach is one of the key concepts of the "Global Strategy for Shelter" promoted by UNCHS (Habitat), and allows the vast human resources of the "informal sector" to be more fully utilized. In turn this would generate urban employment, and promote not only social but economic development.

At the same time, if urban growth is to be truly sustainable over the coming decades, environmental considerations will have to be taken into account. Urban management and planning practices will have to minimize resource depletion in the urban-expansion process and ensure that environmental resources are used wisely.

Promoting healthy, sustainable cities is about making the provision of basic health care and a safe living environment more responsive to consumer needs and demands. It is about local government giving city residents more power in decision making, a bigger role in service provision and more rights in determining priorities. These people need to be able to satisfy their basic needs - including the right to a healthy living and working environment.

However, this community approach to improve the living and working conditions of the poor can only be effective if women - one half of the population - participate in strategy formulation and implementation, both as contributors and beneficiaries. It means acknowledging the role of the urban poor as important actors in the construction and maintenance of cities.

Governments' success in curtailing ill-health, disablement and premature death in cities will largely depend on the extent to which they cooperate with the community sector - transforming the current atmosphere of indifference, or indeed repression, into one of partnership.

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Hundreds of the world's rivers and coastal bays are no more than open sewers.

Ironically, although developing countries produce far less household waste than the industrialized countries, many thousands of families living around rubbish dumps survive by recycling - but it is hazardous work.

CLOGGING UP THE SYSTEM

Since the earliest hominids appeared on Earth around four million years ago, one human characteristic has remained unchanged - we have always left our rubbish lying around. Indeed, if we had not been such inveterate litterers we should have little record of our prehistoric past, for it is from old campsites, discarded tools and chips, remains of meals and similar wastes that we have been able to piece together our earlier, unrecorded history.

The trouble is, today's global population has been estimated to number around one fifteenth of all the humans who ever lived. Even assuming that we were to produce no more wastes per capita than we have done before, this presents us with the unenviable task of disposing of a fifteenth of all the discarded and waste materials we and nature previously had four million years to recycle or reuse.

With a total population of more than five billion, the global pile of human excreta alone increases at the rate of around a million tonnes a day. And this is only one component of the world's waste. Plastic waste is now so pervasive in the ocean that nearly two million sea birds and 100,000 marine mammals die annually after consuming the debris or becoming entangled in it. Every year we produce more and more toxic wastes. Some are highly inflammable and others highly reactive, producing toxic gases in combination with water. Some contain disease-causing agents, such as hospital wastes, while others are radioactive.

But from a worldwide perspective, the most hazardous substance to human health is not toxic or radioactive wastes, but disease-carrying faeces - also one of the most serious sources of water pollution. More than two billion people - approximately two thirds of all those who live in developing countries - have no sanitary means to dispose of human wastes. Even where toilets and sewers exist, there are often no treatment facilities and they serve merely to channel the waste directly into the nearest water body.

In turn, the wide prevalence of water-related disease affects the entire economies of developing countries, where farmers, herders, village craftspeople, shoe makers, and fisherfolk often contribute the major share of the gross national product. In India alone, it is estimated that some 73 million work days are lost every year to excreta-related infections. The cost of health care and of productivity losses due to ill-health and death can be used to argue the need for improved sanitation, but they cannot adequately measure the cost of human suffering and the lowered quality of life suffered by the world's poor.

The prevalence of industry in urban areas is another main contributor to toxic water pollutants producing chlorinated organic compounds, minerals and oils, phenols, nitrogen, phosphorus, mercury, lead and cadmium. On top of this, we also expect our rivers and coastlines to cope with additional runoff from the world's agricultural lands, containing fertilisers, pesticides, herbicides and animal wastes.

Equally disturbing is the increasing amount of solid waste. It consists of domestic garbage and other discarded materials, wastes that are swept up from the streets, and unwanted materials and residues from commercial and industrial enterprises.

While rural settlements generate some modest quantities of solid waste, the problem is predominantly an urban one. And in an urbanizing world the problems posed by solid wastes are increasing. Worldwide, municipal solid waste generation tends to increase with the level of economic development. Citizens of large cities in low-income countries, such as Calcutta and Jakarta produce less than a third of the household waste generated by the residents of large cities, such as New York, in industrialized countries.

Yet, if you were to sift through this trash you would find valuable metals, reusable glass containers, recyclable paper and plastics, and food wastes high in nutritional value. Ironically, although developing countries produce far less household waste than the industrialised countries, many thousands of families living around rubbish dumps in poorer countries survive by recycling. But it is hazardous work, sorting through jagged debris and ever-increasing amounts of toxic wastes - mercury from batteries, cadmium from fluorescent lights and toxic chemicals from cleaning solvents, paints and wood preservatives.

And for every tonne of household rubbish there can be up to another 100 tonnes of industrial waste. Each year just in the United States, about 10 billion tonnes of non-agricultural solid waste is generated. Municipal solid waste only accounts for some one percent of this, yet it amounts to about 140 million tonnes.

Humanity is already paying a high price for littering the globe. Hundreds of our rivers and coastal bays are no more than open sewers, incapable of sustaining life. In hundreds of thousands of landsites hazardous wastes have been dumped without control, and without provision to ensure the wastes do not pollute groundwater reserves. In the United States alone, officials are looking into the safety of 50,000 such sites. The costs today of having to deal with many years of little or no control are staggering.

Yet well-designed and implemented government actions to improve infrastructure and services do not have to be expensive in themselves. Indeed, the pressing needs of the world's two billion poorest people without sanitation and rubbish collection can almost always be met through a variety of low-cost schemes involving the local community.

More too can obviously be done to recycle the world's wastes, especially in richer countries where there is a tendency to discard rather than repair. In this regard UNCHS (Habitat) is working closely with a number of governments to increase national capacities to improve the urban environment through the identification and promotion of efficient, economic practices for managing municipal solid wastes that take advantage of waste reuse.

In the same way even wastewater is a valuable resource with enormous potential for recycling within industries. Urban sewage is rich in nutrients and, with proper control of the health risks can be used in agriculture to irrigate crops and in aquaculture to produce fish crops. Many urban areas have been landscaped using treated sewage as irrigation water. And with modern landfills and incinerators, utilizing the newest technologies, municipalities can now dispose of vast quantities of solid wastes safely. There is even scope to harness the methane gas produced from these landfills to augment urban power requirements.

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But the best method to reduce our waste is to reduce consumption, and change consumption patterns, forgoing excessive packaging for a start. Although the costs of cleaning up after a wasteful society are high, the world cannot continue to ignore the impact of wastes on the environment and human health. We are, in effect, selling an environment belonging to our descendents along with the products needed to maintain today's consumer oriented society.

World Habitat Day

Monday, 7 October 1991

Shelter and the Living Environment

It cannot be ignored that women constitute more than half the world's population and a visible majority of the poor.

Women are a resource which the governments of developing countries can no longer ignore if they wish to realize the potential of human settlements development.

WOMEN: THE UNCOUNTED MAJORITY

For thousands of years, women have taken care of the living environment and its inhabitants. This has been demonstrated throughout history as women provided the sustainable subsistence for their families and communities.

This was recognized in ancient Helenistic philosophy where nature, as well as the earth itself, was perceived as a nurturing mother who was sensitive, alive and responsive to human desires - even so, in ancient Greece women were still excluded from the democratic process of policy making. And, perhaps not surprisingly, it was a woman, Ellen Swallow, who first popularized the word "ecology", from the Greek word "oikos" meaning house, almost one hundred years ago. She envisaged ecology as a new science concerned with water and air quality, transportation and nutrition. She felt that anyone who used natural, life-sustaining elements selfishly was squandering the human inheritance.

But despite this record, women are, in every way, disadvantaged in their participation in the human settlements sector. They are excluded from decision-making on programmes and projects which fundamentally affect their lives. They are handicapped in obtaining property and in gaining access to credit for both housing and business purposes. They are systematically excluded from employment in almost all but the most elementary roles in the construction, finance and real estate industries. Today's women face legal, cultural and educational difficulties in overcoming the obstacles they face in all these areas.

Whether women work outside their homes or not, they generally spend a greater part of their lives than men within or near the home, for they are responsible for child care and household maintenance. Yet, the internal environment of the home in poor neighbourhoods is often dangerous. Fumes from open wood and charcoal fires damage eyes and lungs and household accidents are common where as many as seven people live in one room with unguarded fires and boiling pots.

Even much of women's work is "invisible" in national accounting and censuses, despite its obvious productive and social worth. Poor women are heavily involved in small-scale agriculture and the informal sector, both areas in which transactions do not usually show up in national data. And household work - processing food, carrying water, collecting fuel, child care and harvesting subsistence crops - is unpaid and unaccounted for.

Many village women may only contribute around 20 per cent of household money incomes, but when their non-marketed subsistence production is included, their contribution often rises to more than 50 per cent. Indeed, so big is this unpaid contribution to human welfare, and even survival, that it is estimated that unpaid household work by women, if properly evaluated, would add a third to global production figures.

And as populations have skyrocketed in already cash-strapped and debt-stricken developing countries, over the past decade, women have been left to shoulder a large part of the adjustment burden. To make up for lost family income they have increased production for home consumption, worked longer hours, slept less and even eaten less.

Because women's time is restricted by the work they have to accomplish, it is vital to provide home settings to save both their time and energy, in addition to locating basic health services within easy reach. It would benefit women to have access to safe water nearby - because it is their responsibility to fetch drinking water.

Well priced, cleaner fuels would lighten cooking chores and save the remaining forests and trees. If toilets and drains are built in a way which facilitates easy cleaning, it makes the life of women easier, for this maintenance remains their responsibility. New technologies to maximize the use of renewable resources of energy must cater to the needs of women carrying out their activities.

It cannot be ignored that women constitute more than half of the world's population and a visible majority of the poor. An increasing number of families are either solely or largely supported by women. Indeed, one of the fundamental principles of the Global Shelter Strategy promoted by UNCHS (Habitat) is that strategies aiming to improve the living conditions of the poor can not be effective unless women participate in their formulation and implementation, both as contributors and beneficiaries.

In this regard UNCHS (Habitat) is focusing particularly on women in low-income households and disadvantaged communities, promoting them as agents of change and important users in the area of human settlements. Not only are programmes aiming to increasingly involve women at both the policy and implementation levels, but also to improve their access to credit and ensure they have some security over their own shelter and land.

Yet despite the discrimination from which they suffer, women have made and continue to make substantial contributions to the development, operation and maintenance of human settlements. Without their unpaid and unrecognized labour human settlements in the developing countries would cease to function. Clearly, women are a resource which the governments of developing countries can no longer ignore if they wish to realize the potential of human settlements development for supporting economic growth and for establishing the infrastructure for social advancement in an environmentally sustainable manner.

WORLD HABITAT DAY

Monday, 7 October 1991

Shelter and the Living Environment

Higher sea levels in a warmer world will translate directly into higher death tolls and escalating property damage from storms.

Good coastal planning, coupled with a reduction in greenhouse gas emissions, will allow coastal populations to build for a sustainable future.

THE RISING COSTS OF SEASIDE LIVING

The coastal environment, home to one third of the world's people, is threatened by rapidly growing populations, seaside development and increasing pollution.

The ocean is the source and support of life on earth. Covering 70 per cent of the planet's surface, it influences weather patterns and stabilizes climate around the world. It is a reservoir of dissolved gases, such as carbon dioxide, and contains some of the earth's most complex and diverse ecosystems around its coastlines. Coral reefs, mangrove swamps, seagrass beds and tidal estuaries provide shelter to an array of animal life rivalled only by tropical forests in their diversity.

The importance of coastal wetlands as spawning, nursery and feeding areas cannot be overstated. Globally, nearly two thirds of all fish caught are hatched in these tidal areas. Roughly 90 per cent of all commercial species of fish caught in the Gulf of Mexico and the Caribbean are dependent on estuaries, mangroves, seagrass beds and coral reefs for critical stages in their life cycles.

Fish make up more than 40 per cent of the total animal protein consumed by around two billion developing country citizens. In 1981, fisheries around the Mekong Delta contributed around $US90 million to the struggling economies of Cambodia and Vietnam, while supplying up to 70 per cent of the protein needs of the Delta's 20 million people. Tropical Pacific islanders depend on coastal marine resources for at least 90 per cent of their protein intake.

Fish products are used for animal feed and fertilizer, soaps, pharmaceuticals and other commercial products. The ocean is a storehouse of mineral wealth, a potential source of energy and, through maritime trade, connects the economies of the world.

But however vast they are, the resources of the ocean are not infinite, and we are quickly learning that our seas are not immune to what is happening far inland, or high in the atmosphere. Much of humanity's refuse ends up, sooner or later, in coastal waters, washed down by rivers or dumped directly.

Every year, millions of tonnes of sewage, industrial waste, chemical residues and garbage - from the streets and sewerage pipes - of an urbanizing world pour, often untreated, into the world's seas. Only 30 per cent of the sewage pumped into the Mediterranean from some 700 coastal towns and cities, for instance, is treated. The direct dumping of toxic wastes and the settling of airborne pollutants from smoke and engine exhausts contribute additional contaminants.

Increasing concentrations of nutrients from sewage and fertilizers, as well as chemical residues from the agricultural use of herbicides and pesticides are washed into coastal waters from the rivers and streams which scour deforested hillsides. These poisons may have originated hundreds of kilometres inland, yet it is the plants, animals and human settlements in our coastal ecosystems which ultimately suffer.

Whether from overdevelopment or outright destruction, humanity is killing the world's rich coastal waters. Natural habitats are increasingly being lost to the construction of harbours and industrial installations, to the development of tourist

facilities and mariculture (saltwater fish and shellfish farming) and to the growth of settlements and cities. As population pressures and pollution mount, overexploitation of coastal resources accelerates. Already almost two billion people are crammed along the world's coasts, on a narrow ribbon of land only 60 kilometres wide. Of the world's 50 largest cities, 29 are located on or near coasts.

Each year the fishing populations of developing countries increase in size because young people are unable to find a meaningful livelihood in farming or other occupations. For those without land or capital, education or training, or for school leavers who have failed to find jobs, there is no alternative to fishing or collecting in inshore waters - and no respite for deteriorating ecosystems.

It is clear that coastal areas cannot continue to be used as the globe's rubbish tip, nor can they be over-fished, over-populated, over-developed and over-exploited without humanity paying a devastating bill for the repair costs. Although some fifty countries now have coastal-zone management plans, only a handful have operational regimes. Very few developing countries - with the richest resources - have even got to the planning stage.

Ironically, the imminent threat of climate change and sea-level rise may well provide the sense of urgency, and international response, needed to conserve and manage the world's coastlines. A billion people could be turned into environmental refugees by a one to two metre rise in the world's seas. Even a rise of just one metre would inundate coastal lands, particularly rich river deltas, mangrove forests and coral islands.

And rising seas equate to increased devastation from storm surges, hurricanes and typhoons. A 50 centimetre rise in the world's seas implies enormous consequences for mainland coastal populations, such as those of Bangladesh, China and India. In April 1991 a hurricane killed more than 125,000 people in Bangladesh, leaving millions more homeless. Higher sea levels will translate directly into higher death tolls and escalating property damage from storms.

Yet it is possible that all-encompassing, well-conceived and executed coastal zone management strategies, coupled with a reduction in greenhouse gas emissions, would permit billions of people to utilize their resources better and give them time to prepare for rising seas. Such plans would also allow coastal populations to build for a sustainable future. Perhaps more importantly, they might help give millions of the poorest people - those constantly living on the edge of survival - a sustainable present.

الاستراتيجية العالمية للماوى حتى عام ٢٠٠٠

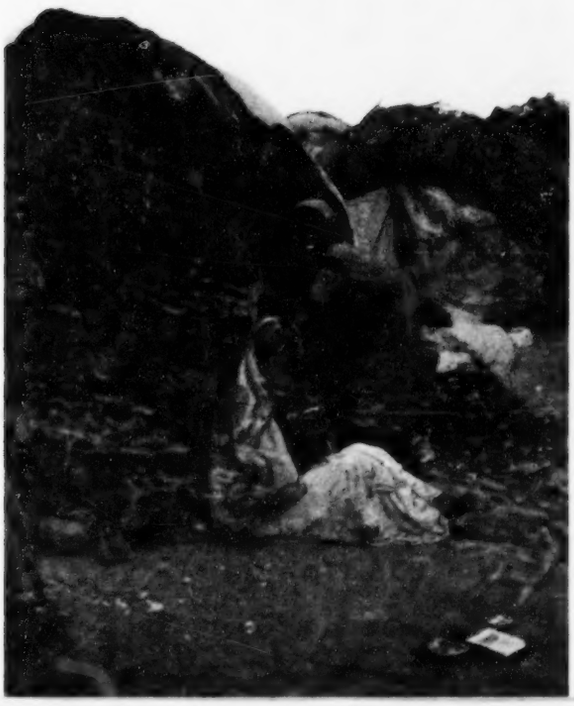
到公元 2000 年全球住房战略

GLOBAL STRATEGY FOR SHELTER TO THE YEAR 2000

LA STRATEGIE MONDIALE DU LOGEMENT JUSQU'EN L'AN 2000

ГЛОБАЛЬНАЯ СТРАТЕГИЯ В ОБЛАСТИ ЖИЛЬЯ ДО 2000 ГОДА

ESTRATEGIA MUNDIAL DE VIVIENDA HASTA EL AÑO 2000



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